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TEACHING A TEACHING LANGUAGE TO DISADVANTAGED CHILDREN.

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THE GOAL OF THE BEREITER-ENGELMANN PRESCHOOL PROGRAM IS TO GET DISADVANTAGED CHILDREN READY FOR THE LEARNING TASKS OF PUBLIC SCHOOL BY TEACHING A TEACHING LANGUAGE. THIS IS DONE BY MEANS OF A HIGHLY ORGANIZED AND STRUCTURED DIRECT LANGUAGE INSTRUCTION DESIGNED TO TEACH THAT A SENTENCE IS A SEQUENCE OF MEANINGFUL PARTS. THE CHILDREN BEGIN WITH LEARNING THE BASIC POINTING-OUT, OR IDENTIFYING, STATEMENT. WHEN THE CHILDREN ARE ABLE TO MAKE A REASONABLE RENDITION OF THE IDENTIFYING STATEMENT, THEY ARE TAUGHT THE NEGATIVE STATEMENT. CATEGORIZATIONS, SUCH AS FARM ANIMALS AND WILD ANIMALS, ARE THEN INTRODUCED. THE CHILDREN LEARN THE VARIOUS AND PRECISE USES OF "AND," "OR," "ONLY," AND "SOME." THEY ARE NEXT GIVEN A SERIES OF TASKS THAT DEAL WITH VERB TENSES, VERB EXPANSIONS, AND PERSONAL PRONOUNS. WHEN THE CHILDREN HAVE BEEN DIRECTED THROUGH THIS COURSE IN BASIC LOGICAL USAGE, THEIR LANGUAGE ABILITY THEN PERMITS SOME PROBLEM SOLVING. RESULTS OF THE STANFORD-BINET AT THE END OF TWO YEARS OF INSTRUCTION INDICATE THAT THE CHILDREN'S IQ'S HAVE RISEN AND ALSO THAT THEY HAVE BEEN ABLE TO USE THE LANGUAGE OF INSTRUCTION TO ACQUIRE READING AND ARITHMETIC SKILLS. (CO'D)

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TEACHING A TEACHING LANGUAGE TO DISADVANTAGED CHILDREN

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In this paper I should like to discuss the language program at the Bereiter-Engelmann Preschool at the University of Illinois. I have been the language teacher at the school since its inception in 1964.

The fundamental goal of the Bereiter-Engelmann Preschool program is to get children ready for the learning tasks that will be required of them in public school and to do this by teaching a teaching language. No matter what kind of teaching takes place in the first grade, its success depends on the child's ability to understand what the teacher is saying. What the teacher says and what the children say back to her constitutes the language of instruction.

For middle-class children, school is usually a very comfortable place. When the middle-class child comes to school, he already possesses a language that relates perfectly to that of the school. When he gets to first grade in the public school he is able to use this language as a vehicle for assimilating the skills and information in the way the schools are organized to teach him.

The number of disadvantaged children who fail, who are retained, who are put into special classes, and who eventually drop out of school indicates that the public school is <u>not</u> a very comfortable place for the lower-class child. It is a place where disadvantaged children typically spend about ten frustrating and unfruitful years.

The children in our school are disadvantaged. The educational background and economic condition of their parents meet the guidelines established by the Office of Economic Opportunity for the Headstart program. They come from poor homes and of poorly-educated parents and have a language and experiential background that is highly disparate from that of most children of the same age who are from more prosperous homes and whose parents have more education.

How is the language and experiential background of the lower-class child different from that of his middle-class peer, and why is he so poorly equipped

when he arrives in first grade to begin learning conventional first grade material?

Characteristics of Lower-Class Language

Basil Bernstein, (1961, 1964) the English sociologist, has investigated the speech of lower-class adults and characterizes the speech of this group of people as a linguistic code that is suited to maintaining social relationships, but which is unsuited for sharing familiar experiences and opinions, for analysis and careful reasoning, for dealing with anything hypothetical or beyond the present, or for dealing with anything very complex. Bernstein is English and his work has been with English lower and middle class speakers. There are, however, many observable parallels in his description to the speech of American lower-class Negro and white speakers.

Bereiter and Engelmann (1966) have hypothesized that the language of disadvantaged children seems to consist not of distinct words, but rather of whole phrases or sentences that function like giant words. These giant word units are not taken apart by the child and re-combined and transformed from statements into questions. To illustrate: "That is a big dog" sounds "Dabidaw". "He is a big man" becomes "Hebihmah". The well-known tendency of many dialect speakers to leave off final consonants is obvious in the above examples, but what is most serious for the child who speaks such sentences (or if Bereiter's and Engelmann's theory is correct -- such giant words) is his difficulty in dealing with sentences as a sequence of meaningful parts.

The following list of language characteristics of four-year-old children is drawn from personal observation and from protocols of a language test, The Basic Concept Inventory Test, developed by Siegfried Engelmann, (1967).

The Language of Four-Year-Old Disadvantaged Children

1. He omits articles, prepositions, conjunctions, and short verbs from

statements. For "This is a ball," he will say, "Dis'ball." "He is sitting on the chair," becomes "He (or him) sittin' chair."

2. He does not understand the function of not in a sentence. An example A child is presented three objects and is asked to point to the cup, the spoon, and the block. He does this and is then asked to point to "something that is not a cup." He points to the cup. Another example: The teacher points to a group of blocks and holds up one. "This block is red. Can you find a block that is not red?" The child points to another red block.

3. He cannot produce plural statements correctly and cannot perform the actions implied by plural statements. "These are balls," becomes "D'ese ball." or "These is balls." In the item on the Concept Inventory Test, "Find the balls that are big," all the children tested pointed to only one of the three big balls in the picture. It has been often noted that Negro children with dialect background tend to leave final consonants off words. This accounts for the omission of the final s in plural nouns, but does not describe the entire problem which is that the verb and demonstrative must be changed from singular to plural form.

4. He cannot use simple tenses to describe past, present, and future action. One of the tasks on the Concept Inventory Test consists of the pictures clearly illustrating the following statements:

"The man is chopping down the tree."

"The man is going to chop down the tree."

"The man chopped down the tree."

The child is asked to point to the proper picture as the tester reads him the statement. Ten of the fourteen children tested missed two or more of these items.

5. He is able to correctly use he and she for male and female figures, but cannot use the pronoun it to refer to an inanimate object. All of the children

missed this item on the test, whereas only one missed the item requiring the use of he. He misuses object pronouns: "Her done it," and "Him sit here," are common substitutions.

6. He does not understand many of the common prepositions and conjunctions. For example, over half of the children missed an item requiring them to point to an object next to a given object. Less than half could handle a between task correctly. I have frequently observed the following behavior: A child is asked to pick up a car and a truck, he does so; but when asked to pick up a book or a pencil, he will pick up both the book and the pencil.

7. He can often perform a direction, but is not able to describe what he has done. When asked to put a ball in the cup, he does so; when asked to tell what he has done, he might say, "Cup," or "Ball the cup," or even "Cup in ball."

8. He does not realize that two or more words can describe one object. To him a boy is a boy, and it is not possible to also call him a person. Once he has learned to identify pig, it is difficult to teach him that the pig is also an animal. After he learns that a block is big, he has trouble accepting that the same block can also be described as red, and that one can say, "This block is big and red."

Whether these language characteristics represent a language that is a valid but different language from standard English or whether they represent a substandard English dialect, incapable of being used for serious cognition, need not be argued here. What is evident is that such characteristics are not those of the language used in the public school.

The Language of the Public School

Let us look at the language of the school. The following examples from teacher's manuals are for lessons that are to be taught the first day of school in first grade classes:

> Lead the group in a discussion about relative size by asking questions such as, 'Are the two big cars the same size? Are the two little cars the same size? Is the first car in the row bigger than the second? Look at the last two cars. Which is bigger?' (Carrillo, 1965)

The following is from a series that intends to teach the "language of instruction" to children who are getting ready for formal instruction:

> Put your finger on the spoon. What is at the top of the spoon row? Draw a line under the same at the bottom of the spoon row. You were right if you underlined the last picture. (McNeil, 1966)

A final example: The first question suggested in a teacher's guide to a reading series designed for disadvantaged children is:

> Who can tell us what is different about the pictures in this book? The suggested answer: Yes, they are photographs, like the snapshots people take with a camera. The children in those pictures are not drawn and colored to look like children. They are real children, just like you. (Carrillo, 1965)

In my following remarks I will ignore the obvious misstatement of fact, "They are real children," and the ambiguity of the question, "Different from what?"

In order for the child to have even the faintest chance to follow these instructions, he must as a bare minimum understand such key words as two, big, same, little, first, row, bigger, second, last, which, in the first example (finding the bigger car), the words top, row, same, bottom, right, if, and, last, in the second example (the spoon row), and in the last example (the real children) a wealth of verbiage, tell, different, about, picture, in, photographs, like, snapshots, people, camera, these, are, not, drawn, and, colored, look.

To teach a disadvantaged child the meaning of the vocabulary used in the above teacher directions does not represent the total solution to the educational problem of this child, but such teaching is a vitally necessary first step if we expect the child to perform successfully in school. To teach the child to function in the language used in the above examples is to require profound change in the child's linguistic and cognitive behavior. It is our position that if this is to be accomplished in the short period of time the child will spend in a kindergarten

or pre-school class, there must be a rigorous program of highly organized and structured direct language instruction. A good language program must provide ample opportunity for demonstration of language by the teacher, practice of the demonstrated language by the child, and correction of the child's language by the teacher. We do not believe, given the short number of hours the child spends in school, that the traditional nursery school approach of experience and exposure is sufficient to meet the very particular and desperate needs of disadvantaged children.

Language As A System Of Logical Communication

Language that contains the requirements of a logical communication system between child and teacher is the basis of the Bereiter-Engelmann language program. A direction implies many operations. To perform the tasks required by the direction, the child must first understand and be able to act upon the operational implications of the words contained in the statement. This is the language we teach in the program. Our conception of language is narrow in that it does not directly concern itself with the social and expressive use of language. It is our thesis, however, that proper and precise understanding and use of instructional language will not result from a program which concentrates only on social and expressive use of language, whereas the direct teaching of an instructional language will in a very short time produce a richer social and expressive language. This thesis is borne out by the scores of our children on the vocal-encoding section of the Illinois Test of Psycholinguistic Abilities. Although our language sessions demand highly prescribed and verbatim responses from the children,

significant gains on this subtest, which requires the child to freely describe an object, were made. When the first year's subjects were tested after six weeks of school, which is when they were tested for the first time, they averaged one year below normal. Three months later, they averaged at the normal level, and three months later yet, they averaged 4½ months above normal.

The Method and Practice of the Bereiter-Engelmann Language Program

Typically, there have been fifteen children and three teachers in each pre-school class. Language, arithmetic, and reading are taught in three twenty-minute periods each. The fifteen children are divided, according to teacher evaluation of pupil performance, into three groups for work in the three subject areas. The remaining hour is spent on various large and small teacher-directed group activities -- music, writing, story-telling, work-book and vocabulary-building tasks, and games. There is a fifteen minute break for juice. The school day lasts about two and one half hours. Part of a large classroom has been divided into three small rooms, which are used for the reading, language, and arithmetic classes, and in each of which are small chairs and a chalkboard. The remaining section of the classroom is equipped with tables, chairs, a piano, and a cabinet full of books, paper, pencils, crayons and scissors. Aside from puzzles, a model barn and house, there are no toys.

Because the language of instruction, or the teaching language, is for many of the children a new language, the program is designed to give the child the maximum amount of teacher-monitored practice in each language period.

A basic and simple presentational language is consistently used. Only when the children have mastered this skeleton language and have used it as a vehicle for acquiring some new concepts, are the statements and patterns changed and altered. Teaching tasks are broken into sub-tasks and these sub-tasks are sequenced into a logical order. For each sub-task the teacher presents some instruction, the

children respond, and the teacher corrects or praises the response. The teacher sits in a circle with five children. She leads them in a fast alternating statement, question, and response pattern. This can be called pattern drill, but it must be pointed out that the drill is always accompanied by meaning that has just been demonstrated.

The pattern drill is based on statements and the questions and answers that are implied by the statements. The child must learn that statements have parts, and he learns that by combining a set of words into a statement a reality is described. He learns to ask and answer the questions that are implied in statements. He also learns that changes in reality can be described by inserting or substituting other words.

The children quickly learn to speak rhythmically and in unison. The teacher is able to detect most individual errors within the unison response but she frequently alternates group responses with individual responses. The teacher changes tasks frequently and, by moving at a very fast pace, keeps the children working in a highly disciplined manner. The children perform the tasks with great enthusiasm and seem to derive great social pleasure from working together in a team.

For correct responses the children are firmly praised, and in terms directly related to what they are doing, "That's good talking." or "You said that just right." or "You said the whole statement that time. Good for you." Corrections are made in a clear and forthright manner. "John, you haven't said it right. I want to hear every word," or, "No, you're wrong," followed by the correction. A child's mistake is a signal to the teacher that she must either take several steps back and carry the child once again through the teaching sequence, that she must provide clearer demonstrations, or that something is wrong with her presentation.

The Beginning Language Program

On the first day of school, the children begin learning the basic pointing out, or identifying statement. All the children I have worked with have come to school with a repertoire of labels for common objects. The intention of the beginning work is to teach them to place a label into a statement. Since the object of the lesson is to teach the statement form, and not new object names, familiar objects are used. The teacher has several of these in a box on her lap. She holds up one and says, "This is a cup. Let's say it." She says slowly and rhythmically with the children: "This is a cup." The teacher says: "Let's say it again. This is a what?" The teacher says with the children at a little faster pace: "This is a cup."

Several more group responses follow. Then the teacher calls on one child, "Danny, what is this?" The criterion for successful performance of the task is to say all four words in the proper order. Perfect pronunciation of each word is not an expectation. If, as is common, a child leaves out is or a, or is and a, the teacher will repeat the sentence, clapping her hands while saying the words that had been left out. She will have the children clap on the same words as they repeat the sentence.

The teacher lifts a new object out of the box. "This is a comb. What is this? This is a comb." Another object is shown. "What is this? This is a block." The teacher then quickly alternates the objects, asking the questions and assessing and correcting the statements that are produced by the children.

When the children are able to make a reasonable rendition of the identity statement, they are taught the not statement. The teacher points to and identifies three objects on a tray in her lap, "This is a cup, this is a comb, this is a block." She then points to the cup and says, "This is not a comb. Is this a

comb?" She makes the statement with the children: "This is not a comb." If a child says, "This is a cup," the teacher assures him that he is correct, but that she is asking about a comb. She repeats the question, "Is this a comb?" to which the answer is, "No, this is not a comb."

The children repeat, together and separately, alternating affirmative and negative statements about objects on the tray and things in the room.

If a child does not talk, the teacher must set up the task so that the child can point to the correct object. "John, show me the cup." If he does not point to it, she takes his hand and points one of his fingers at the cup. She says, "This is the cup. Now you show me the spoon." It may be necessary to help him several times. When he is able to point to the proper object, one word responses should be elicited, and finally sentences. In the three years I have taught with this method, it has never taken more than a week to get even the most language-deprived child to utter at least a semblance of a sentence.

Backwards practive is helpful for children who leave out small articles and small verbs. The teacher will say, "This is a ball." Now say this, "ball", the child says "ball"; now say, "a ball", the child says "a ball" first with the teacher and then by himself. This is repeated several times. The teacher says, "is a ball" and the child and the teacher repeat this; finally the teacher says, "Let's say the whole thing, 'This is a ball.'"

Children frequently say, "This ain't no spoon." or "This is not no spoon." Instead of telling the child that <u>ain't</u> and <u>not no</u> is wrong, the teacher corrects in the following manner, "Say it the way I do." or "This is the way you say it in school."

Plural statements are particularly difficult for children to learn to use correctly. They are taught later in the program, but the teaching problem and

method will be described now. The word changes that must be made to change the singular statement to the plural statement are many and are difficult for the child who has not had a lot of previous practice in their correct usage. Observe the changes in:

This is a ball.

These are balls.

It was noted earlier that not only is the child unable to use signular and plural statements correctly to describe what he sees, but that he also is unable to hear the difference between the two statements and correctly perform the implied action of any one of them. For instance, the child is asked to, "Pick up the spoons." One can assume the child who, in response to that request, picks up one spoon is not only unable to make the s sound at the end of spoons, but that he also does not hear it and is therefore not able to perform the operation implied by the plural statement.

The questions, "What is this?" and "What are these?" contain clues to the answers, "This is a ball," and "These are balls." When the children can make the correct response to the questions, the teacher switches to holding one or more objects in front of the child and asking, "Tell me what you see." There are no cues in that request, and the child must be able to originate his answer without help. Further training must be given the children to teach them to ask the singular and plural questions.

Second Order Statements

When the child has learned to say, "This is a cup, and this is not a comb," he proceeds to learn series of analogous concepts that are taught in the form, "This _____ is _____." (This cup is big.) He first learns a set of polar concepts, such as tall -- short, big -- little, loud -- soft, hot -- cold. He

learns to make the deduction, "If this block is not big, it is little." He also learns the relative quality of polar terms. This is done by the teacher drawing two men, one tall and one not tall. The children establish that one man is tall and one man is not tall; then, the teacher erases the tall man and draws another shorter than the remaining man. "Now, who can find the man who is tall?"

The child is simultaneously learning the prepositions in, on, over, under, in front of, in back of, between and next to. The form used for "This cup is little" is now used with a prepositional phrase, "This cup is on the table." Next he learns other non-polar attributes -- colors, shapes, patterns, and materials objects are made of. Again, he is taught by the same statement form, "This cup is white. This cup is round. This cup is striped. This cup is made of plastic." He learns to describe an object with two or more words, "This cup is white and round." The following is a list of the sentence patterns used in the language program:

First Order Statements

This is a _____ .

The not statement:

This is not a _____ .

Plural statement:

These are _____ .

Second Order Statements:

Form: This _____ is _____.

Polar: This cup is big.
This cup is not big.
This cup is little.
This cup is not little.

Prepositions: This cup is on the table

Color: This cup is white.

Pattern: The cup is striped.

Categories: This animal is a zebra.
This building is a house.
This plant is a tree.

Shape: This cup is round.

Made of: This cup is made of plastic.

The advantage of the patterns, in addition to being very direct and simple statements, is that once the sentence form is taught and the teacher knows that the child can understand and use it, the mistakes the child makes can be quickly isolated and identified as mistakes in the new concepts being taught and not misunderstandings of the language being used to teach them.

Category tasks, employing class terms, are then introduced. Not only does the child learn to identify elephants, zebras, and giraffes, but he learns that all of these elephants, zebras, and giraffes are animals. Some of the categories taught are: farm animals, wild animals, buildings, plants, vehicles, tools, toys, food, persons, containers, household equipment. Categories are a very efficient and meaningful way of expanding vocabulary. For example, while learning the names of many kinds of vehicles, the children are simultaneously learning that all of these items have something in common, and can be grouped into the class, vehicle. Defining rules can be given for most class terms; the children learn that, "If you eat it, it's food." "If you wear it, it's clothing." "If it takes you places, it's a vehicle." Such a definition provides the child with a rule that he can use and apply to new vocabulary. Not all class terms, for example, persons and animals, can be given a definition that children can understand.

The children learn the various and precise uses of and, or, all, only, some. They are next given a series of tasks that deal with verb tenses, verb expansions, and personal pronouns. There is considerable work in identifying the similarities

and differences between objects. When the children have been directed through this course in basic logical usage, their language ability then permits some problem solving activity.

Advanced Language

I will briefly outline two typical lessons that occur after the children have been in the program for several months.

Disadvantaged children typically have trouble attending to the differentiating class terms in a question. To the question "What color is this box?" the answer is frequently "This box is big," or "This box is on the table." The following lesson deals with these distinctions. The teacher draws a group of geometric figures on the chalkboard -- rectangles, squares, circles, and triangles. She draws big and little examples of each. She colors them and then asks a series of questions -- "What color is this figure?" "What size is this figure?" A further extension of the task is to have the child find a given figure and describe it.

Teacher: Andy, find a figure that is triangular.
Child: This figure is triangular.
Teacher: What size it it?
Child: This figure is triangular and big.
Teacher: Good. What color is it?
Child: Green.
Teacher: Can you tell all you know about the figure.
Child: This figure is triangular and big and green.
Teacher: That is good talking.

The children learn the days of the week, the months of the year, and the seasons of the year. In addition to learning the names of the seasons, they learn the observable characteristics of the seasons. Then, when presented with a picture of for example a winter scene, and asked "Which season is it in this picture?" they can ask themselves the relevant questions about the picture: "Is there snow? Are there leaves on the deciduous trees? Are the people wearing

heavy clothes?" If the answers to one or more of these questions coincide with facts they have learned as characteristic of the winter season, they then can conclude that this is a picture of the winter season.

Small Group Teaching Techniques

The success of teaching language to small children by this group method depends in large part on the teacher's ability to structure and analyze what she is teaching and at what rate her students are learning. The teacher should:

1. diagnose and evaluate what the child knows that is relevant to what she is going to teach.
2. decide on the learning tasks of a period and teach them, not letting the children distract her with chance remarks from the intended program.
3. speak quickly and distinctly, changing tasks frequently.
4. restructure and reorganize presentation when children are not learning.
5. present learning tasks in the most simple and logical way possible, adding only one new concept at a time.
6. give instant feedback to children, correct wrong responses, praise correct responses.
7. intercept wrong responses, when possible, before or while they are being made.
8. give the answer to a child who seems about to make a mistake or who is silent.
9. get the attention of misbehaving or distracted children by patting or touching them on the shoulder or the knees instead of interrupting the lesson with verbal admonishments.
10. move on to new tasks when children have mastered a task and not spend time drilling on material the children already know.

Corrections are made quickly and without rancor. Wrong responses are interrupted for two reasons: the child should not practice an incorrect response, and the other children in the group should not hear wrong responses. Since almost instant responses are necessary, a long pause almost always indicates that the child does not know the answer. Allowing him to sit silently on the

premise that he might think of the answer is more likely to result in wild guessing and in feelings of shame about being wrong. It must be remembered that one of the more difficult concepts for disadvantaged children to learn is "I don't know."

Comparative Test Results

What are the results of this highly-structured directly-taught language program compared to a more experimental, less rigorous program?

The Stanford-Binet, whatever its deficiencies as a measure of intelligence, has been shown to be a very good predictor of school success. We have had three groups of children, each group has been with us for two years. Our first group of children, Group I, (1964-1967) achieved a 10 point IQ gain from a mean of 95 to 105. At the end of their kindergarten year, they scored at the 1.7 grade level in reading and the 2.6 level in arithmetic on the Wide Range Achievement Test. Group II, (1965-1967) made a mean gain of 25 points in two years from a mean of 95 to a mean of 120 (17 points the first year, 8 points the second year), and scored at the 2.2 level in reading and arithmetic at the end of their kindergarten year. Group III, which has just finished its first year in the program, made a gain of 12 points from a mean of 91 to a mean of 103 and scored at the 1.2 level in reading and 1.0 in arithmetic.

As part of a comparative study run at the University of Illinois, an equivalent control group of twenty-eight children spent one year in a traditional preschool program and a second year in public kindergartens. They entered in the fall of 1965 with a mean Stanford-Binet score of 95. During the preschool year the children were in two classes, each of which had three teachers. Their mean score at the end of the preschool year was 103, a gain of eight points. When this control group was tested at the end of a year in public kindergarten, they had lost three points from the original gain of eight points, resulting in a mean

score of 100.

Conclusions

The language of instruction is a language system taught to the disadvantaged children who come to our school so that they will be able to process the concepts that are used in logical thinking, reading, and arithmetic. As a teacher in the school it has been my experience that the children are able to learn this language by the method we teach them, and to be happy and enthusiastic while doing so. The test results indicate that not only have the children learned something about the language of instruction, but that they have been able to use this language to acquire reading and arithmetic skills as well. We cannot determine just how much of the 25 point IQ gain of Group II is due to the language training and how much is due to the arithmetic and reading training. It is our conviction that the intensive language program is fundamental to all that the children learn in our school, and that neither the IQ gains nor the arithmetic and reading scores would be so impressive had not the children been so carefully instructed in the teaching language of the public school.

In our school we want to give the children the prerequisite skills that will enable them to enjoy equal educational opportunity in the public schools. The chances of disadvantaged children becoming fully functioning members of the mainstream of American society are, to a large degree, dependent upon their ability to succeed in school.

The time-schedule of the public schools has been established by the progress of middle-class youngsters who, for example, learn to read in the first grade and who read on the fourth grade level in the fourth grade. For the disadvantaged child to succeed in the public school he must be able to comply with this time-schedule.

Preschools and kindergartens designed for disadvantaged children can play an important role in providing children with the skills they will need to meet the learning time-table that has been established in the public school. Preschool and kindergarten theories and practices that have been developed over the past years for middle-class children must be examined to see if they provide the most effective means of preparing disadvantaged children, academically as well as emotionally and socially, for the demands of the public school. We cannot assume that what has been very successful with middle-class children will be successful in preparing lower-class children to compete with middle-class children in the public schools.

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Preschool - 9/64-6/66

GROUP I

	1964 Entry Stanford-Binet IQ	May, 1966 IQ	Wide Range Achievement Scores - June, 1966 Reading	Spelling	Arithmetic
Child A	121	126	1.3	2.5	2.0
B	94	100	0.9	1.3	1.3
C	95	117	1.0	1.4	1.2
D	98	100	1.1	1.9	1.5
E	92	107	1.7	3.6	1.9
F	105	108	1.3	2.9	1.9
G	92	108	MOVED OUT OF COMMUNITY		
H	96	99	2.3	3.1	2.2
I	95	100	1.3	1.8	1.7
J	91	103	1.3	2.3	1.7
K	105	114	1.9	3.3	1.8
L	99	114	2.1	3.6	2.2
M	88	102	1.8	3.1	2.0
N	90	99	1.3	2.5	1.2

Mean 1964 Entry IQ - 95
Mean May, 1966, IQ - 105

Wide Range Achievement (Grade Levels)-Mean Scores:
Reading-1.7; Spelling-1.8; Arithmetic-2.6

Bereiter-Engelmann
Preschool- 9/65-6/67

GROUP II

	1965 Entry Standord-Binet IQ	Current IQ June, 1967	Wide Range Achievement Scores - June, 1967			
			Reading	Arithmetic Verbal	Arithmetic Written	Spelling
Child A	92	123	2.7	1.5	2.2	1.8
B	93	103	1.6	1.1	2.3	1.7
C	105	121	3.1	2.0	3.3	2.2
D	89	131	3.7	2.0	3.1	2.1
E	99	119	2.7	1.8	2.9	2.0
F	86	112	3.6	1.6	2.5	2.3
G	119	139	3.1	1.6	3.3	2.1
H	90	112	1.6	1.4	-	1.0
I	84	108	2.0	1.6	2.2	1.7
J	109	138	3.1	2.0	2.7	2.0
K	99	129	1.7	1.6	2.2	1.9
L	101	118	2.3	1.2	2.0	1.6

Initial IQ (1965) - 97.17

Current IQ (1967) - 121.00

Mean Scores

Wide Range Achievement (Grade Levels)

Reading - 2.6 Mean Scores
Arithmetic - 1.6 (Verbal)
2.6 (Written)
Spelling - 1.8

Bereiter-Engelmann
Preschool 1966-1967

	Birthdate	1966 Entry IQ	June '67 IQ	Wide Range Achievement Scores Reading	Arithmetic	Spelling
Child 1	2-13-62	101	123	1.4	1.5	1.5
2	7-5-62	82	90	.5	.3	.9
3	2-27-62	82	96	1.5	1.4	1.6
4	7-20-62	96	100	1.6	1.1	1.7
5	8-1-62	84	94	.7	.6	.3
6	2-19-62	78	103	1.8	1.5	1.3
7	5-6-62	93	96	1.3	1.1	1.0
8	12-5-61	81	102	1.2	1.5	1.0
9	4-19-62	85	102	1.2	1.2	1.0
10	2-22-62	109	121	1.3	1.2	1.3
11	10-10-62	90	97	1.2	.7	1.0
12	10-14-62	111	113	1.2	1.1	1.0
13	11-7-62	85	95	1.2	1.1	1.0
14	1-24-62	95	109	1.4	.7	1.3

Mean 1966 Entry IQ = 90.8

Mean June 1967 IQ = 102.8

Wide Range Achievement (Grade Levels) - Mean Scores

Reading	1.25
Arithmetic	1.05
Spelling	1.12